

Claims

1           1. A device incorporating a first radio system operating at a first range of  
2 frequencies of operation and a second radio system operating at a second range  
3 of frequencies of operation, wherein at least a part of said first and second range  
4 of frequencies overlap, wherein the device further comprises a control means  
5 adapted to control the first and second radio systems such that only one  
6 or the other radio system may transmit at any one time.

1           2. The device of claim 1, wherein the first radio system is a Bluetooth system  
2 and the second radio system is an IEEE 802.11 system.

1           3. The device of claim 1, wherein the device is additionally controlled such  
2 that when one device is transmitting the other device cannot receive or transmit.

1           4. The device of claim 3 wherein the device is additionally controlled such  
2 that when one device is receiving the other device cannot receive or transmit.

1           5. The device of claim 2, wherein the control means comprises a switching  
2 means adapted to switch on and off the first and second radio systems.

1           6. The device of claim 2, wherein the control means comprises a multiplexing  
2 means adapted to time multiplex transmissions from the first and second radio  
3 systems.

1           7. The device of claim 2, wherein the control means comprises a multiplexing  
2 means adapted to time multiplex transmissions from the Bluetooth and IEEE  
3 802.11 radio systems, the IEEE 802.11 and Bluetooth transmissions being  
4 multiplexed into Bluetooth time-slots.

1           8. The device of claim 7, wherein the Bluetooth transmissions are through a  
2 single HV2 SCO link connection, the IEEE 802.11 transmissions being in two  
3 time-slots in every four.

1           9. The device of claim 7, wherein the Bluetooth transmissions are through a  
2 single HV3 SCO link connection, the IEEE 802.11 transmissions being in four  
3 time-slots in every six.

1        10. The device of claim 7, wherein the Bluetooth transmissions are through  
2        two HV3 SCO link connections, the IEEE 802.11 transmissions being in two  
3        time-slots in every six.

1        11. The device of claim 2, wherein the control means prevents transmission  
2        of IEEE 802.11 packets during a Bluetooth ACL packet transmission.

1        12. The device of claim 2, wherein the control means prevents transmission  
2        of Bluetooth ACL packets during an IEEE 802.11 packet transmission.

1        13. The device of claim 12 in which the first and second radio systems share  
2        a common physical layer.

1        14. A method of incorporating a first radio system operating at a first range  
2        of frequencies of operation and a second radio system operating at a second  
3        range of frequencies of operation, wherein at least a part of said first and second  
4        range of frequencies overlap, into a single device, wherein the first and second  
5        radio systems are controlled such that only one or the other radio system  
6        transmits at any one time.

1        15. The method of claim 14, wherein the first radio system is a Bluetooth  
2        system and the second radio system is an IEEE 802.11 system.

1        16. The method of claim 15 further comprising controlling the radio systems  
2        such that when one radio system is transmitting the other cannot receive or  
3        transmit.

1        17. The method of claim 16 further comprising controlling the radio systems  
2        such that when one is receiving the other cannot receive or transmit.

1        18. The method of claim 15, wherein the radio systems are controlled by  
2        switching on and off the first and second radio systems.

1        19. The method of claim 15, comprising time multiplexing transmissions  
2        from the Bluetooth and IEEE 802.11 radio systems, the IEEE 802.11 and  
3        Bluetooth transmissions being multiplexed into Bluetooth time-slots.

1        20. The method of claim 19, wherein the Bluetooth transmissions are through  
2 a single HV2 SCO link connection, the IEEE 802.11 transmissions being in two  
3 time-slots in every four.

1        21. The method of claim 19, wherein the Bluetooth transmissions are through  
2 a single HV3 SCO link connection, the IEEE 802.11 transmissions being in four  
3 time-slots in every six.

1        22. The method of claim 19, wherein the Bluetooth transmissions are through  
2 two HV3 SCO link connections, the IEEE 802.11 transmissions being in two  
3 time-slots in every six.

1        23. The method of claim 15 further comprising preventing transmission of  
2 IEEE 802.11 packets during a Bluetooth ACL packet transmission.

1        24. The method of claim 15 further comprising preventing transmission of  
2 Bluetooth ACL packets during an IEEE 802.11 packet transmission.

1        25. The method of claim 24 in which the first and second radio systems share  
2 a common physical layer.